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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/560,047	04/27/2000	Hidetsugu Fukuyama	FURUYA CASE 1380	2869

7590 10/04/2002

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EXAMINER

NORTON, NADINE GEORGIANNA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 10/04/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/560,047

Applicant(s)

FUKUYAMA ET AL.

Examiner

Nadine Norton

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) 1 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4 is/are rejected.
- 7) ☒ Claim(s) 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Information Disclosure Statement***

The file reflects applicants' submission of a supplemental IDS on 11-8-00 in paper no.8. The 1449 and attached references are missing from the file. Applicants are requested to submit a copy of the missing 1449 and attached references along with their response so the examiner can consider the supplemental IDS.

### ***Specification***

The abstract of the disclosure is objected to because it is longer than 150 words. Correction is required. See MPEP § 608.01(b).

### ***Election/Restrictions***

Applicants' election with traverse of Group II in Paper No. 10 is acknowledged. The traversal is on the ground(s) that the two inventions entail the same search. This is not found persuasive because the two inventions require different searches as evidenced by their different classifications and the one way distinctness described in the restriction.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 2, it is unclear if applicants' claimed catalyst is used in "both" the first and second cracking step. It appears as if applicants' intend to claim the presence of the claimed catalyst in both steps. If this is the case, it is suggested that applicants' amend the claims accordingly.

***Claim Objections***

Claim 4 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicants are required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 4 currently limits the feed to a heavy oil. However, the heavy oil limitation already appears in independent claim 1.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1764

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sudhakar et al. (5,624,547).

Applicants are claiming a two step process for hydrocracking a heavy oil. The process involves the use of a catalyst as defined in applicants' claim 1.

The reference of Sudhakar et al. (5,624,547) discloses a process including the pretreatment of a hydrocarbon oil feed before hydrocracking. See abstract and column 5, lines 52-65. The pretreatment comprises contacting the feed with a catalyst including iron (1-15%) supported on carbon. See column 9, lines 10-20 and 50-60. The carbon support has a surface area of 100-2,000 m<sup>2</sup>/g, a pore volume of 0.4-1.2 cm<sup>3</sup>/g, and an average pore diameter of 12-100 Å (1.2 to 10 nm). See column 8, lines 5-15. Process conditions include the presence of hydrogen, a temperature of 250-450 °C and a pressure of 200-3000 psig. See column 6, lines 30-45. The pretreatment accomplishes mild hydrocracking. See column 8 lines 61-64. The reference of Sudhakar et al. (5,624,547) teaches hydrocracking conditions including a temperature of 380 °C and a pressure of 1350 psig. See column 16, lines 5-25.

Sudhakar et al's pretreatment is considered to correspond to applicants' 1st hydrocracking step because the same feed, catalyst and overlapping process conditions are employed.

Several differences are noted between the reference of Sudhakar et al. (5,624,547) and applicants' invention. The reference does not disclose employing applicants' claimed catalyst in

Art Unit: 1764

more than one step. In addition, the reference is silent with respect to the concentration of catalyst in the heavy oil.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to repeat the first pretreatment step of the Sudhakar et al.(5,624,547) process until a desired level of conversion occurs because it is within the level of ordinary skill to practice a known step until a desired level of conversion is accomplished.

In addition, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ any amount of catalyst in the first and second steps, including the specific percentages claimed by applicants, because it has been held that there is no invention where the difference in proportions are not critical and were ascertained by routine experimentation because the determination of workable ranges is not considered to be inventive. In re Swain and Adams , 70 USPQ 412 (CCPA 1946).

### ***Prior Art of Record***

The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The reference of Hudson et al.(4,755,280) discloses a hydrocarbon conversion process employing a carbon supported composition.

Art Unit: 1764

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nadine Norton whose telephone number is 703-305-2667. The examiner can normally be reached on Monday through Thursday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

N.N.

September 30, 2002

**NADINE G. NORTON**  
**PRIMARY EXAMINER**

